DOCUMENT RESUME

ED 300 685 CE 051 430

AUTHOR Turner, Gordon; And Others
TITLE Hi-Res Electronic Design. Courseware Evaluation for Vocational and Technical Education.
INSTITUTION Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE May 87
NOTE 9p.; For the basic evaluation form, see ED 244 058.
PUB TYPE Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Software Reviews; *Courseware; *Diagrams; Drafting; *Electronics; *Engineering Graphics; High Schools; Instructional Material Evaluation; Trade and Industrial Education

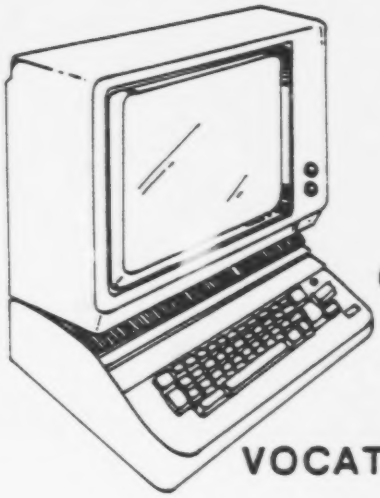
ABSTRACT

This courseware evaluation rates the Hi-Res Electronic Design program developed by Avant-Garde Creations. (The program--not contained in this document--is designed to determine closure and area of a survey.) Part A describes the program in terms of subject area (schematic diagrams and symbols) and hardware requirements (Apple II, color monitor, data disk, and mouse, paddle, or joystick), indicates its suitability for use in grades 9-12, and gives a time estimate (45 minutes and up). Availability information includes backup and preview policy and contact address. Part B contains the evaluation criteria in eight categories; reviewer ratings appear as yes, somewhat, no, and not applicable, with explanatory comments. Part C summarizes the evaluation. Yes ratings were given for subject matter, technical presentation, student interaction, and application programs; somewhat for documentation and work behaviors; program interaction and student evaluation were not applicable. Reviewers noted that the program uses graphics well to teach symbols and makes schematic diagrams easier, but that printing is difficult and documentation weak. The program is recommended as unique, but awkward to use. (SK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED300685

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.



HI-RES ELECTRONIC DESIGN.

COURSEWARE EVALUATION

FOR

VOCATIONAL AND TECHNICAL EDUCATION

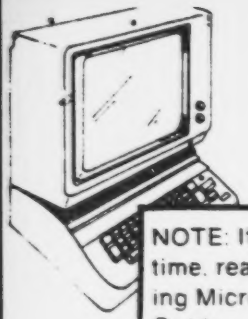
The evaluation of this courseware program was conducted by a team participating in the Courseware Evaluation Network. The Network, established in 1985, is coordinated by the National Center for Research in Vocational Education under the sponsorship of the U.S. Department of Education, Office of Vocational and Adult Education. The purpose of the Network is to identify and evaluate microcomputer courseware, and to disseminate courseware reviews for vocational and technical education.

Each Network team includes three members, at least one of which is, or recently has been, a vocational or technical teacher in the subject matter area of the courseware being evaluated. The evaluation represents a synthesis of the opinions of the team members. It is suggested that the evaluation be used as a first screening device for courseware and that the teacher also evaluate the courseware program on the basis of specific student needs.

The Courseware Evaluation: Form and Guide used for all of the Network evaluations was developed by the National Center and is available through its cost-recovery system.

OE051430

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
1960 KENNY ROAD · COLUMBUS, OHIO 43210



COURSEWARE EVALUATION FORM

NOTE: If you are using this form for the first time, read the instructions in the accompanying Microcomputer Courseware Evaluation Guide.

Evaluator Gordon Turner; James Goldstine
Position Earl Gates.
Date 5/87

Part A: Courseware Description

In the following sections, record descriptive information about the courseware that you are evaluating.

I. IDENTIFICATION

Program Title Hi-Res Electronic Design. Date 1982

Series Title

Vocational Area(s) Trade and Industrial Education

Subject Area(s) Electronics

Topic(s) Schematic Diagrams and Symbols

Developing Agency Avant Garde Creations

Street or P.O. Box P.O. Box 30160

City Eugene, State OR. Zip 97403 Phone(503) 345-3043

Author(s) Don Fudge

Programmer(s)

II. HARDWARE REQUIREMENTS

Microcomputer* Apple II Series
(brand/model)

K Memory Required 48K
(number)

Medium of Transfer (include number of each):

- __ Tape cassette
- __ ROM cartridge
- X 5¼" Flexible disk
- __ 8" Flexible disk
- __ Other _____ (specify)

Programming Language Apple Software DOS Specifications 3.3

Other Specifications

Peripherals Needed (check all that apply):

- X Color monitor
- X One disk drive
- __ Two disk drives
- __ Plotter
- X Game paddle(s)
- X Joystick(s)
- __ Modem
- X Mouse
- X Printer
- __ Graphics tablet
- __ Light pen
- __ Voice/sound instrument
- __ Clock
- __ Video disk
- __ Touch screen
- __ Ten-key number pad
- __ Other _____ (specify)

*NOTE: Provide the above information for any additional hardware on which this program can be used.

III. PROGRAM FEATURES (check all that apply):

- ___ Network version provided
- ___ Multiple copies required
- X Program can be modified
- X Program protected
- X Data disk needed
- ___ Field-test data available

IV. INSTRUCTIONAL SETTING

Program mode (check all that apply):

- X Application
- ___ Drill and practice
- ___ Educational gaming
- ___ Simulation
- ___ Tutorial
- ___ Other _____ (specify)

Student Target Population (check all that apply):

- X Regular
- ___ Disadvantaged
- ___ Handicapped
- ___ Limited English
- ___ Bilingual
- ___ Gifted

Grade Level (check all that apply):

- ___ K-6
- ___ 7-8
- X 9-10
- X 11-12
- ___ 13-14
- ___ Adult
- ___ Higher Education

Instructional Grouping (check all that apply):

- X Individual
- ___ Small group (up to 4)
- ___ Large group (4 or more)
- ___ competitive interaction
- ___ cooperative interaction

Prerequisite Student Skills (specify) Some knowledge of Electronic Symbols.

Accompanying Materials (specify types):

Documentation 11 page manual

Student support materials _____

Teacher support materials _____

Correlated materials _____

Estimated Time for Use Variable task oriented, 45 minutes and up.

V. AVAILABILITY

- ___ Free _____ (copies)
- X Sale $ _____
- ___ Rent $ _____ _____ (time)
- ___ Loan _____ (time)
- ___ Duplication (requestor supplies disk)

Copyright Restrictions (explain) Copyrighted.

Back-up Policy (explain) Available at nominal cost.

Preview Policy (explain) 30 days

Update Policy (explain) _____

Contact Avant Garde Creations

Street or P.O. Box P.O. Box 30160

City Eugene, State OR. Zip 97403 Phone (503) 345-3043

Part B: Courseware Evaluation Criteria

Indicate the applicability of each section to the courseware being evaluated by checking either "___ A" (applicable) or "___ N/A" (not applicable). If a section is not applicable, proceed to the next section. If a section is applicable, check the column that indicates how well the courseware meets each criterion. Include any comments.

	YES	SOME-WHAT	NO	N/A	COMMENTS
I. SUBJECT MATTER _X_ A ___ N/A					
1. Subject matter has educational value.	X				
2. Student objectives are stated.			X		
3. Subject matter is accurate.	X				
4. Subject matter is logically presented.	X				
5. Subject matter is free of race, ethnic, sex, and other stereotypes.	X				
6. Subject matter is on the level of the students.	X				
7. Information and skills presented are comparable to those used in the home, business, or industry.	X				
8. Subject matter motivates students to learn.	X				
9. Subject matter is reviewed and summarized.			X		
10. Program utilizes the unique capabilities of the microcomputer to present the subject matter.	X				
II. TECHNICAL PRESENTATION _X_ A ___ N/A					
1. Program is free of technical problems.	X				
2. Presentation rate is adequate to maintain interest.	X				
3. Information on the screen is easy to read.	X				
4. Program is free of spelling and grammatical errors.	X				
5. Program instructions are easy to follow.	X				
6. Color increases the instructional value of the program.		X			
7. Audio increases the instructional value of the program.			X		
8. Graphics increase the instructional value of the program.	X				

	YES	SOME-WHAT	NO	N/A	COMMENTS
III. STUDENT INTERACTION _X_ A ___ N/A					
1. Students can use the program with minimal assistance.	X				
2. Students are actively involved in the program.	X				
3. Students control the pace of the program.	X				
4. Students can access the program "menu(s)" to change activities.	X				
5. Students are permitted to change answers.				X	
6. Methods of responding correspond to the level of the program.	X				
7. Students' errors of entry are processed so that the program continues to run.				X	
8. Students can access available "help" and "hint" options at any time.	X				
9. Students can enter or exit the program as desired.	X				
10. Students control the sequence of the program.	X				
IV. PROGRAM INTERACTION ___ A _X_ N/A					
1. Feedback is immediate.					
2. Cues and prompts are provided to assist students in answering correctly.					
3. Feedback reinforces the correct responses.					
4. Feedback is nonthreatening.					
5. Program helps students understand wrong answers.					
6. Program gives the correct answer after a reasonable number of tries.					
7. Positive reinforcement is varied.					
8. Program has the ability to branch/loop depending upon students' performance.					
9. Feedback is on the level of the student.					
V. STUDENT EVALUATION ___ A _X_ N/A					
1. Evaluation provides a means for measuring attainment of objectives.					
2. Program reports which items were missed and which were correct.					

	YES	SOME-WHAT	NO	N/A	COMMENTS
V. STUDENT EVALUATION—*Continued*					
3. Individual student performance results are available to the teacher.					
4. Class performance results are available to the teacher.					
5. Program provides for printed copies of evaluations.					
6. Test item formats are suited to the material being tested.					
7. Test items are clearly stated.					
8. Test item bank is provided.					
VI. DOCUMENTATION X A ___ N/A					
1. Documentation is easy to understand.		X			
2. Documentation is accurate.	X				
3. Student objectives are stated.			X		
4. Underlying concepts are outlined.			X		
5. Skills to be developed are specified.			X		
6. Procedures for integrating the program into the curriculum are provided.			X		
7. Follow-up activities are suggested.			X		
8. Documentation explains the intended use of support materials.				X	
9. Sufficient information is provided to operate the program.	X				
VII. WORK BEHAVIORS X A ___ N/A					
1. Program helps students identify their vocational skills.	X				
2. Program promotes pride in work.			X		
3. Program promotes productivity.			X		
4. Program encourages good work habits.		X			
5. Problem solving is encouraged.		X			
6. Program promotes good human relations skills.			X		
7. Program provides an opportunity for work satisfaction and self-fulfillment.	X				
8. Program encourages creativity.	X				

	YES	SOME-WHAT	NO	N/A	COMMENTS
VIII. APPLICATION PROGRAMS __XA __ N/A (to be completed for application programs **only**)					
1. Program is adaptable to the needs of the student.	X				
2. Commands are easily remembered.	X				
3. Information is easily manipulated.	X				
4. Corrections are easy to make.		X			Erasing an error is tedious.
5. Program includes all necessary variables.	X				
6. Program performs reliably.	X				
7. Program efficiently achieves its intended purpose.	X				
8. Trial data are supplied for learning to run the program.				X	
9. Program provides for use of printer when hard copy of information is advantageous.	X				
10. Program moves from operation to operation efficiently.	X				
11. Program is compatible with other application programs.				X	
12. Program has a supplementary tutorial program available.			X		

Part C: Courseware Evaluation Summary

1 SUMMARY COMMENTS

Identify strengths of the courseware

Graphics well used to teach symbols.
Allows schematic diagrams to be made easier than many CAD programs.

Identify weaknesses of the courseware

Printing is difficult and documentation weak.

Describe uses of the courseware in an instructional setting

Electronics or Drafting.

2. SUMMARY OF SECTION

Rate the quality of the courseware for each applicable section of this form by checking the appropriate column; if not applicable, check N/A.

	YES	SOME-WHAT	NO	N/A
I. SUBJECT MATTER: Content has educational value.	X			
II. TECHNICAL PRESENTATION: Program is free of malfunctions.	X			
III. STUDENT INTERACTION: Students are actively involved with the program.	X			
IV. PROGRAM INTERACTION: Feedback is effectively employed.				X
V. STUDENT EVALUATION: Evaluation adequately measures student progress				X
VI. DOCUMENTATION: Documentation is sufficient to run the program.		X		
VII. WORK BEHAVIORS: Program assists students in developing positive work attitudes and skills.		X		
VIII. APPLICATION PROGRAMS: Program performs the task for which it is intended.	X			

3. FINAL RECOMMENDATION

Check your recommendation for the courseware and explain your reasons below.

___ Highly recommend
_X_ Recommend
___ Recommend with reservations
___ Do not recommend

Unique, but awkward to use.